UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,213	09/30/2003	Thomas Birkhoelzer	32860-000632/US	9598

30596 7590 03/26/2008

HARNESS, DICKEY & PIERCE, P.L.C.
P.O.BOX 8910
RESTON, VA 20195

EXAMINER	
KENNEDY, ADRIAN L	

ART UNIT	PAPER NUMBER
2129	

MAIL DATE	DELIVERY MODE
03/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/673,213	BIRKHOELZER, THOMAS	
	Examiner	Art Unit	
	ADRIAN L. KENNEDY	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Detailed Office Action

1. This Office Action is responsive to **Request for Continued Examination**, filed **January 22, 2008**.

2. **Claims 1-26** will be examined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 1-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett et al. (USPN 6,029,144, referred to as Barrett).

Regarding claims 1 and 24:

Barrett teaches,

> a first apparatus (Barrett; Column(C) 6, Lines(L) 6-12; EN: Having not further defined the applicant's claimed "first apparatus" in the claimed invention, the examiner has found that the claimed "first apparatus" reads on the policy checker taught by Barrett.) adapted to detect fuzzy process definitions (Barrett; C 6, L 6-12; EN: Having not further defined the applicant's claimed "fuzzy process definitions" in the claimed invention, the examiner has found that the claimed "fuzzy process definitions" read on the policies and rules taught by Barrett.);

a second apparatus (Barrett; C 8, L 9-21; EN: Having not further defined the applicant's claimed "second apparatus" in the claimed invention, the examiner has found that the claimed "second apparatus" reads on the auditor system taught by Barrett.) adapted to control activity stages in a workflow for the purpose of processing the process definitions (Barrett; C 8, L 44-50; EN: The examiner has found that in not further defining the applicant's claimed "control [of] activity stages" in the claimed invention, that the "control [of] activity stages" reads on the management of workflow by the auditor workflow system as taught by Barrett. Furthermore, based on the applicant not teaching what the "control" is based on the examiner asserts that the "control" can be based on input instructions from a human operator and performed by the auditor system as taught by Barrett.); and

means for evaluating the process definitions for each process instance (Barrett; C 8, L 26-29; EN: Having not further defined the applicant's claimed "means" in the claimed invention, the examiner has found that the claimed "means" would have been obvious to one of ordinary skill in the art in light of Barrett teaching the processing (i.e. evaluating) of policies and rules at each stage of the audit process.), the means for evaluating including a functional stage for initiating an activity associated with an activity stage (Barrett; C 6, L 31-35; EN: The examiner takes the position that in not further defining the applicant's claimed functional stages in the claimed invention, the "initiating of activity" is inherent in Barrett teaching the performing of audits by the policy checker.) and reporting the state of the activity to the second apparatus (Barrett; C 6, L 31-35; EN: The examiner takes the position that the term "approve" is an exemplary embodiment of

the reporting of the state of the policy checker audit performed in the invention of Barrett et al., and that he anticipates the applicant's claimed reporting.).

Regarding claim 2:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses includes an interference machine (Barrett; C 11, L 1-15; EN: The examiner takes the position Kohonen network acts as a interference machine in the invention of Barrett This "interference" is apparent in the operations of weighting inputs and the delivering (forwarding) of usage pattern statistics (instruction) that are used in later phases (activity stages) to determine which usage patterns have high probability of fraud).

Regarding claim 3:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses includes an interference mechanism, arranged in an interference machine (Barrett; C 13, L 57-59) and in contact with a process instance manager, adapted to forward a signal corresponding to the respective instruction for activities of the activity stages to the process instance manager (EN: The examiner takes the position that the SOM neural network acts as an interference machine. This "interference" is apparent in the operation of creating fraud detection rules that can be used to detect patterns indicative of fraud. Additionally, the examiner takes the position that although not explicitly stated, the

existence of a process instance manager is inherent in the process of the auditor workflow system tracking the path of an expense entry through the phases of the audit (C 8, L 26-29)).

Regarding claim 4:

Barrett teaches,

(Previously Amended) The workflow management system wherein the means for evaluating includes a control stage (EN: The examiner takes the position that the auditor system controls process flow according to the rules is apparent in the statement that modifications made to the system by the rules are saved (Barrett; C 8, L 19-21)), supplied with an activity threshold (Barrett; C 14, L 11-14) by an evaluation stage (Barrett; C 14, L 11-14) for the process status and connected to the functional stage for carrying out the activities (EN: The examiner takes the position that although a functional stage for carrying out activities is not explicitly recited, it is inherent in the invention and is apparent in the process of determining if accumulated expense entries exceed a threshold value in Column 14, Lines 11-14), and wherein the functional stage is adapted to forward a signal corresponding to the respective state of the activities of the activity stages to the process instance manager (EN: The examiner takes the position that the process of forward a signal corresponding to the respective state of the activities to the process instance manager is equivalent to the process of forward an employees serial number and entry keys (signals) that indicate possible fraud (respective states of the auditing activities) to an administration system (process instance manager)).

Regarding claim 5:

Barrett teaches,

> (Original) The workflow management system wherein at least one of the apparatuses is adapted to deliver instructions (Barrett; C 8, L 44-45; EN: The examiner takes the position that in guiding the auditors, the auditor workflow system delivers some form of instructions) to activities of the activity stages with an associated continuous variable (EN: The examiner takes the position that the continuous variables claimed by the applicant are equivalent to the flags, taught by Barrett, in Column 12, Lines 54-57), the instructions being compared with an activity threshold (Barrett; C 14, L 11-14;) for the control stage and providing corresponding "fuzzy" worklists (Barrett; C 8, L 36-38; "*work lists*"; EN: The examiner takes the position that because the fraud detection process taught by Barrett completes task based on fuzzy rules, it would be inherent for all work list to be fuzzy list. This is apparent because the completion of a task would be dependent on whether certain rules were executed. This is also apparent in the fact that the invention of Barrett continuously modifies rules (Barrett; C 13, L 51-52)) for each activity of the activity stages, which reports its state to the at least one apparatus in the form of continuous variables.

Regarding claim 6:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses includes causal networks (Barrett; C 10, L 52-54; EN: The examiner takes the position that the SOM taught by Barrett is a causal network. This is evident in the fact that based on its analysis of expense patterns (cause) it makes rules (effect) (C 11, L 16-21)).

Regarding claim 7:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses is adapted to operate on the basis of the laws of fuzzy logic (Barrett; C 12, L 54-57; EN: The examiner takes the position that the fuzzy rules define the logic used to process the expense entries, and as a result of the logic rules being "fuzzy", the logic is inherently "fuzzy").

Regarding claim 8:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses is adapted to operate on the basis of the laws of probability-based modeling (Barrett; C 11, L 8-11).

Regarding claim 9:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses is adapted to operate on the basis of the laws of general weighting (Barrett; C 11, L 6-7).

Regarding claim 10:

Barrett teaches,

detecting fuzzy process definitions (Barrett; C 6, L 6-12; EN: Having not further defined the applicant's claimed "fuzzy process definitions" in the claimed invention, the examiner has found that the claimed "fuzzy process definitions" read on the policies and rules taught by Barrett.);

controlling activity stages in a workflow for the purpose of processing the process definitions (Barrett; C 8, L 44-50; EN: The examiner has found that in not further defining the applicant's claimed "control [of] activity stages" in the claimed invention, that the "control [of] activity stages" reads on the management of workflow by the auditor workflow system as taught by Barrett. Furthermore, based on the applicant not teaching what the "control" is based on the examiner asserts that the "control" can be based on input instructions from a human operator and performed by the auditor system as taught by Barrett.); and

evaluating the process definitions for each process instance (Barrett; C 8, L 26-29; EN: The examiner takes the position that the applicant's claimed "evaluating" reads on Barrett teaching the processing (i.e. evaluating) of policies and rules at each stage of the audit process.), the evaluating including at least initiating an activity associated with an activity stage (Barrett; C 6, L 31-35; EN: The examiner takes the position that in not further

defining the applicant's claimed functional stages in the claimed invention, the "initiating of activity" is inherent in Barrett teaching the performing of audits by the policy checker.) and reporting the state of the activity to be used in controlling the activity stages (Barrett; C 6, L 31-35; EN: The examiner takes the position that the term “approve” is an exemplary embodiment of the reporting of the state of the policy checker audit performed in the invention of Barrett et al., and that he anticipates the applicant’s claimed reporting.).

Regarding claim 11:

Barrett teaches,

(Original) The method wherein the continuous mapping operations are performed using at least one of fuzzy rules and relations (Barrett; C 12, L 54-57; EN: The examiner takes the position that the use of fuzzy rules to identify expenses as fraud (relate expenses to fraud), in the invention Barrett, anticipates applicant’s claimed invention).

Regarding claim 12:

Barrett teaches,

(Original) The method wherein the continuous mapping operations are performed on the basis of the rules of fuzzy logic (Barrett; C 12, L 54-57; EN: The examiner takes the position that the fuzzy rules define the logic used to process the expense entries, and as a result of the logic rules being “fuzzy”, the logic is inherently “fuzzy”).

Regarding claim 13:

Barrett teaches,

(Original) The method wherein the continuous mapping operations are performed on the basis of the rules of probability-based modeling (Barrett; C 11, L 8-11).

Regarding claim 14:

Barrett teaches,

(Original) The method wherein the continuous mapping operations are performed on the basis of the rules of control systems (Barrett; C 8, L 44-45) with priority weighting (Barrett; C 14, L 21-23; EN: The examiner takes the position that priority weighting claimed by the applicant and the priority ranking taught by Barrett are equivalent and as a result Barrett anticipates applicant's claimed invention.

Regarding claim 15:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses includes an interference mechanism, arranged in an interference machine (Barrett; C 13, L 57-59) and in contact with a process instance manager, adapted to forward a signal corresponding to the respective instruction for activities of the activity stages to the process instance manager (EN: The examiner takes the position that the SOM neural network acts as an interference machine. This "interference" is apparent in the operation of creating fraud detection rules that can be used to detect patterns indicative of fraud.

Additionally, the examiner takes the position that although not explicitly stated, the existence of a process instance manager is inherent in the process of the auditor workflow system tracking the path of an expense entry through the phases of the audit (Barrett; C 8, L 26-29)).

Regarding claim 16:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses is adapted to deliver instructions (Barrett; C 8, L 44-45; EN: The examiner takes the position that in guiding the auditors, the auditor workflow system delivers some form of instructions) to activities of the activity stages with an associated continuous variable (EN: The examiner takes the position that the continuous variables claimed by the applicant are equivalent to the flags, taught by Barrett, in Column 12, Lines 54-57), the instructions being compared with an activity threshold (Barrett; C 14, L 11-14; "*threshold value*") for the control stage and providing corresponding "fuzzy" worklists (Barrett; C 8, L 36-38; EN: The examiner takes the position that because the fraud detection process taught by Barrett completes task based on fuzzy rules, it would be inherent for all work list to be fuzzy list. This is apparent because the completion of a task would be dependent on whether certain rules were executed. This is also apparent in the fact that the invention of Barrett continuously modifies rules (Barrett; C 13, L 51-52)) for each activity of the activity stages, which reports its state to the at least one apparatus in the form of continuous variables.

Regarding claim 17:

Barrett teaches,

> (Original) The workflow management system wherein at least one of the apparatuses is adapted to deliver instructions (Barrett; C 8, L 44-45; EN: The examiner takes the position that in guiding the auditors, the auditor workflow system delivers some form of instructions) to activities of the activity stages with an associated continuous variable (EN: The examiner takes the position that the continuous variables claimed by the applicant are equivalent to the flags, taught by Barrett, in Column 12, Lines 54-57), the instructions being compared with an activity threshold (Barrett; C 14, L 11-14) for the control stage and providing corresponding "fuzzy" worklists (Barrett; C 8, L 36-38; EN: The examiner takes the position that because the fraud detection process taught by Barrett completes task based on fuzzy rules, it would be inherent for all work list to be fuzzy list. This is apparent because the completion of a task would be dependent on whether certain rules were executed. This is also apparent in the fact that the invention of Barrett continuously modifies rules (Barrett; C 13, L 51-52)) for each activity of the activity stages, which reports its state to the at least one apparatus in the form of continuous variables.

Regarding claim 18:

Barrett teaches,

(Original) The workflow management system wherein at least one of the apparatuses is adapted to deliver instructions (Barrett; C 8, L 44-45; EN: The examiner takes the position that in guiding the auditors, the auditor workflow system delivers some form of instructions) to activities of the activity stages with an associated continuous variable (EN: The examiner takes the position that the continuous variables claimed by the applicant are equivalent to the flags, taught by Barrett, in Column 12, Lines 54-57), the instructions being compared with an activity threshold (Barrett; C 14, L 11-14) for the control stage and providing corresponding "fuzzy" worklists (Barrett; C 8, L 36-38; EN: The examiner takes the position that because the fraud detection process taught by Barrett completes task based on fuzzy rules, it would be inherent for all work list to be fuzzy list. This is apparent because the completion of a task would be dependent on whether certain rules were executed. This is also apparent in the fact that the invention of Barrett continuously modifies rules (Barrett; C 13, L 51-52)) for each activity of the activity stages, which reports its state to the at least one apparatus in the form of continuous variables.

Regarding claim 19:

Barrett teaches,

(Original) The method wherein the continuous mapping operations are performed on the basis of the rules of fuzzy logic (Barrett; C 12, L 54-57; EN: The examiner takes the position that the fuzzy rules define the logic used to process the expense entries, and as a result of the logic rules being “fuzzy”, the logic is inherently “fuzzy”).

Regarding claim 20:

Barrett teaches,

> (Original) The method wherein the continuous mapping operations are performed on the basis of the rules of probability-based modeling (Barrett; C 11, L 8-11).

Regarding claim 21:

Barrett teaches,

> (Original) The method wherein the continuous mapping operations are performed on the basis of the rules of fuzzy logic (Barrett; C 12, L 54-57; EN: The examiner takes the position that the fuzzy rules define the logic used to process the expense entries, and as a result of the logic rules being "fuzzy", the logic is inherently "fuzzy").

Regarding claim 22:

Barrett teaches,

> (Currently Amended) The method wherein the continuous mapping operations are performed on the basis of the rules of fuzzy logic (Barrett; C 12, L 54-57; EN: The examiner takes the position that the fuzzy rules define the logic used to process the expense entries, and as a result of the logic rules being "fuzzy", the logic is inherently "fuzzy").

Regarding claim 23:

Barrett teaches,

> (Original) The method wherein the continuous mapping operations are performed on the basis of the rules of probability-based modeling (Barrett; C 11, L 8-11).

Regarding claim 25:

Barrett teaches,

> (New) The workflow management system wherein the first and second apparatuses are separate and discrete apparatuses (Barrett; FIG 2; EN: The examiner takes the position that in teaching the policy checker and the audit workflow system being 2 distinct inventions items, that it is inherent that they are "separate and distinct apparatuses".).

Response to Arguments

Applicant's arguments filed on January 22, 2008 have been fully considered but are found to be non-persuasive. The unpersuasive arguments made by the Applicant are stated below:

In reference to Applicant's argument:

> Barrett, however, says nothing about the rules in the rules database 402 being "fuzzy process definitions."

Examiner's response:

The examiner has considered the applicant's above arguments and has respectfully withdrawn the previously made prior art rejections. Furthermore, a new grounds of rejection has been set forth above.

In reference to Applicant's argument:

> Accordingly, the rules in the rules database 402 are not "fuzzy process definitions," and the policy checker does not constitute the "first apparatus, of claim 1.

Examiner's response:

The examiner has considered the applicant's above arguments and has respectfully withdrawn the previously made prior art rejections. Furthermore, a new grounds of rejection has been set forth above.

In reference to Applicant's argument:

> Therefore, Barrett fails to teach or suggest the "first apparatus," and "second apparatus," of claim 1.

Examiner's response:

The examiner has considered the applicant's above arguments and has respectfully withdrawn the previously made prior art rejections. Furthermore, a new grounds of rejection has been set forth above.

In reference to Applicant's argument:

> The above-quoted portion of Barrett only further supports Applicant's assertion that the control of the workflow system rests with the human auditor in that the auditor workflow system 216 does not perform any action without instruction from the human auditor.

Examiner's response:

The examiner has considered the applicant's above arguments and has found that while the auditor system does receive a human auditor's input, it is the human input into the auditor system that determines what actions to perform, but the auditor system itself still facilitates the carrying of said actions based on human auditor recommendations. Furthermore, the applicant's claimed "second apparatus adapted to control activity stages" does not exclude said control being based on human input. The fact that the workflow is managed by the auditor system is further supported by Barrett teaching the execution of validation procedure being performed by an audit workflow application (Barrett: C 9, L 2-5).

Conclusion

Examiner's Opinion:

The examiner has considered the applicant's arguments in light of the claimed invention. Furthermore, the examiner respectfully reminds the applicant that "**during examination, the claims must be interpreted as broadly as their terms reasonably allow**". (MPEP 2111.01 [R-5] I)

It is the goal of the Examiner to move the applicant's claimed invention towards allowability. However, as presently claimed, the applicant's claimed invention is substantially broad and is broad enough to read on the prior art of record. Specifically, the terms "first apparatus", "second apparatus", "fuzzy process definitions", "functional stage", and "activity stage" (Claim 1) are capable of being interpreted several ways.

Should the applicant choose to amend, the Examiner respectfully suggests that the applicant consider further defining the aforementioned terms, and/or including the subject matter of claim 26.

Claims 1-26 are rejected.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALK

David Vincent
Supervisory Patent Examiner
Technology Center 2100

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129